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Remarks and Discussion

This response is intended as a full and complete response to the Final Office action mailed August 13, 2002. Claims 21-23, 25-53 have been canceled and claims 54-80 have been added. As explained below, the Applicants believe that new claims 54-80 are patentable over the prior art of record.

Rejection of Claims 21-23, 25-45 and 48-53 under 35 U.S.C. §103(a)

Claims 21-23, 25-45 and 48-53 stand rejected under 35 U.S.C. §103(a) in view of Bai et al. (USP 5,714,418 issued February 3, 1998, hereinafter referred to as Bai), in view of Ho et al. (USP 5,175,126 issued December 29, 1992, hereinafter referred to as Ho), Hower et al. (USP 5,712,193 issued January 27, 1998, hereinafter referred to as Hower) and Fu et al. (USP 5,685,960 issued November 11, 1997, hereinafter referred to as Fu). Applicants have cancelled all the pending claims and have added new claims. As such, the previous rejection is moot.

The combination of previously cited art does not teach the subject matter recited in claims 54-80. Specifically, none of the prior art teaches or suggests depositing a metal nitride layer atop a refractory metal layer using a metallo-organic substance and then exposing the metal nitride layer to a plasma to remove carbon from the metal nitride layer. Neither Bai, Ho, Hower or Fu teach such a method. As such, the Applicants submit that new claims 54-80 are patentable over the prior art of record.

Therefore, the Applicants believe new claims 54-80 are allowable. Accordingly, withdrawal of the 35 U.S.C. §103(a) rejections of claims 21-23, 25-45 and 48-53, as applicable to claims 54-80 is hereby requested.

Rejection of Claims 46 and 47 under 35 U.S.C. §103(a)

Claims 46 and 47 stand rejected under 35 U.S.C. 103(a) in view of Bai, in view of Ho, Hower and Fu, as applied to claims 21-23, 25-45 and 48-53 and

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further in view of Dixit et al. (USP 4,960,732, issued October 2, 1990, hereinafter referred to as Dixit). Applicants have cancelled all the pending claims and have added new claims. As such, the previous rejection is moot.

The combination of previously cited art does not teach the subject matter recited in claims 54-70. Specifically, none of the prior art teaches or suggests depositing a metal nitride layer atop a refractory metal layer using a metallo-organic substance and then exposing the metal nitride layer to a plasma to remove carbon from the metal nitride layer. Neither Bai, Ho, Hower, Fu or Dixit teach such a method. As such, the Applicants submit that new claims 54-80 are patentable over the prior art of record.

Therefore, the Applicants believe new claims 54-80 are allowable. Accordingly, withdrawal of the 35 U.S.C. §103(a) rejections of claims 46 and 47 as they apply to claims 54-80 is respectfully requested.

Rejection of Claims 21-23 and 25-53 under 35 U.S.C. §103(a)

Claims 21-23 and 25-53 are rejected under 35 U.S.C. §103(a) In view of Dixit or Sandhu et al. (USP 5,723,382, Issued March 3, 1998), hereinafter referred to as Sandhu) taken with Suguro et al. (Applied Surface Science, 41/42 (1989) 277-281, hereinafter referred to as Suguro) and further in view of Ho, Hower and Fu. Applicants have cancelled all the pending claims and have added new claims. As such, the previous rejection is moot.

The combination of previously cited art does not teach the subject matter recited in claims 54-80. Specifically, none of the prior art teaches or suggests depositing a metal nitride layer atop a refractory metal layer using a metallo-organic substance and then exposing the metal nitride layer to a plasma to remove carbon from the metal nitride layer. Neither Bai, Ho, Hower, Fu, Dixit or Sandhu teach such a method. As such, the Applicants submit that new claims 54-80 are patentable over the prior art of record.

Therefore, the Applicants believe that new claims 54-80 are allowable. Accordingly, withdrawal of the 35 U.S.C. §103(a) rejections of claims 21-23 and 25-53 as they apply to claims 54-80 is respectfully requested.

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Rule 131 Declaration

The Examiner states that the response provided in Paper No. 23 in connection with the Rule 131 Declaration remain applicable. Applicants respectfully traverse the ground of rejection of the Rule 131 Declaration.

To the extent that the filing of the Rule 131 Declaration is inappropriate to overcome Bal in view of new claims 54-80, any issues relating to the Declaration have been rendered moot by the cancellation of the pending claims and the addition of the new claims.

Therefore, Applicants request the Examiner to withdraw any objections as to the appropriateness of the Rule 131 Declaration.

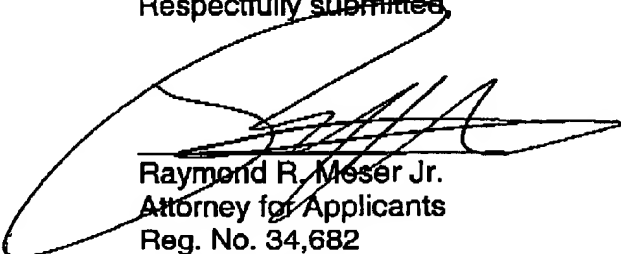
Conclusion

Thus, Applicants submit that none of claims 54-80 are obvious under the provisions of 35 U.S.C. §103. Consequently, Applicants believe that claims 54-80 are in condition for allowance. Accordingly, Applicants respectfully request reconsideration of this application and its early allowance.

If, however, the Examiner believes that any unresolved issues still exist in any of these claims that require a continuance of the adverse action therefore, it is requested that the Examiner telephone the undersigned so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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